

Nuclear Regulatory Commission

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(i) If the fissile radionuclides are not uniformly distributed, the maximum amount of uranium-235 per package may not exceed the value given in Table I of this part; or

(ii) If the fissile radionuclides are distributed uniformly (i.e., cannot form a lattice arrangement within the packaging), the maximum amount of uranium-235 per package may not exceed the value given in Table II of this part; and

(7) The transport index of each package, based on criticality considerations, is taken as 10 times the number of grams of uranium-235 in the package divided by the maximum allowable number of grams per package in accordance with Table I or Table II of this part, as applicable.

TABLE I—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE MATERIAL PACKAGE, APPLICABLE TO § 71.20(c)(6)(i)

[Nonuniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
24	40
20	42
15	45
11	48
10	51
9.5	52
9	54
8.5	55
8	57
7.5	59
7	60
6.5	62
6	65
5.5	68
5	72
4.5	76
4	80
3.5	88
3	100
2.5	120
2	164
1.5	272
1.35	320
1	680
0.92	1,200

TABLE II—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE MATERIAL PACKAGE, APPLICABLE TO § 71.20(c)(6)(ii)

[Uniform Distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
4	84
3.5	92
3	112
2.5	148
2	240
1.5	560
1.35	800

§ 71.22 General license: Fissile material, limited quantity, controlled shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part, if limited material is shipped in accordance with this section.

(b) The general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of Subpart H of this part.

(c) This general license applies only when a package contains no more than a Type A quantity of radioactive material and no more than 400 g total of the fissile radionuclides of plutonium encapsulated as plutonium-beryllium neutron sources in special form.

(d) This general license applies only when:

(1) The mass of fissile radionuclides in the shipment is limited such that the

$$\frac{\text{grams of uranium - 235}}{X} + \frac{\text{grams of other fissile material}}{Y} \leq 1$$

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where X and Y are the mass defined in the table following paragraph (d)(2) of this section; or

(2) the encapsulated plutonium-beryllium neutron sources are in special

form and the total mass of fissile radionuclides in the shipment does not exceed 2500 g.

PERMISSIBLE MASS LIMITS FOR SHIPMENTS OF FISSILE MATERIAL

Fissile material	Fissile material mass (g) mixed with substances having a hydrogen density less than or equal to water	Fissile material mass (g) mixed with substances having a hydrogen density greater than water
Uranium-235(X)	500	290
Other fissile material(Y)	300	180

(e) Except for the beryllium contained within the special form plutonium-beryllium sources authorized in paragraphs (c) and (d) of this section, this general license applies only when beryllium, graphite or hydrogenous material enriched in deuterium is not present in quantities exceeding 0.1% of the fissile material mass.

(f) This general license applies only when shipment of these packages is made under procedures specifically authorized by DOT, in accordance with 49 CFR Part 173 of its regulations, to prevent loading, transport, or storage of these packages with other fissile material shipments.

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§ 71.24 General license: Fissile material, limited moderator, controlled shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of subparts E and F of this part, if limited material is shipped in accordance with this section.

(b) The general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part.

(c) This general license applies only when—

(1) No package contains more than a Type A quantity of radioactive material;

(2) The packaging does not incorporate lead shielding exceeding 5 cm in thickness, tungsten shielding, or uranium shielding;

(3) Neither beryllium nor hydrogenous material enriched in deuterium is present;

(4) The total mass of graphite present does not exceed 7.7 times the total mass of uranium-235 and plutonium;

(5) Substances having a higher hydrogen density than water (e.g., certain hydrocarbon oils), are not present, except that polyethylene may be used for packing or wrapping;

(6) For fissile contents containing no uranium-233 and less than 1 percent by weight total plutonium, if the fissile radionuclides are—

(i) Not uniformly distributed, the maximum amount of uranium-235 per consignment does not exceed the value given in Table III of this part; or

(ii) Distributed uniformly and cannot form a lattice arrangement within the packaging, the maximum amount of uranium-235 per shipment does not exceed the value given in Table IV of this part;

(7) For fissile contents containing uranium-233 or more than 1 percent by weight plutonium, the total mass of fissile material per shipment is limited so that the sum of the number of grams of uranium-235 divided by 400, the number of grams of plutonium divided by 225, and the number of grams of uranium-233 divided by 250, does not exceed unity, as expressed in the formula: